REMARKS

The Final Rejection mailed March 1, 2004, considered claims 1-7, 9-18 and 20-28. Claims 1-6, 9-14, 16 and 28 were rejected under 35 U.S.C. § 102(b) as being anticipated by the article "The Microsoft Interactive TV System: An Experience Report by Michael B. Jones". Claims 17-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the articles by Jones and in view of Perlman (U.S. Patent No. 5,745,909)[1].

By this paper claims 1, 10 and 17 have been amended, such that claims 1-7 and 9-28 remain pending. Of these claims, the only independent claims at issue are claims 1, 10, 17, 21.

Claim 1 is directed to a method for compositing an image in such a way as to help reduce processing requirements for rendering an image by avoiding the processing of data that will not be visible during display of the image. The recited method includes dividing an image into a plurality of slices, lines and spans, and for each span, reading data directly from an image source and without reading the data as part of a composite image from a buffer. The portions of the image that are opaque and translucent are then identified. For each portion of the image that is translucent, the data from the corresponding image sources is read, blended and displayed. For each portion of the image that is opaque and that would be visible during display of the image, the visible image data is read, and without reading data that would not be visible.

Claim 10 is directed to another method for compositing an image in which the image data is read and displayed from the image sources and without first storing a composite image of the data in an image buffer.

Claim 17 is directed to a method for reducing flicker of a displayed image by blending span data. In particular, image data that is subject to flickering and that is defined by a single span from a line is blended with the span data from the corresponding vertically adjacent spans (e.g., the previous and next spans), and without blending the entire line from which the span is obtained with either of the lines from which the vertically adjacent spans are obtained.

The last independent claim, claim 21, is directed to a method for blending data streams of different color spaces. As recited, the method includes receiving data streams at a blending module where they are directed to corresponding blending units that blend data streams having

[1] Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

the same color space as the blending unit. Thereafter, the outputs from the blending units are converted into a single color space and blended into a final image data stream.

In the latest Action, Claim 1 was rejected for anticipation in view of the Microsoft Article. Applicants respectfully submit, however, that The Microsoft Article neither anticipates nor obviates the claimed method for compositing an image in which the image is divided into slices, lines and spans, wherein the data from each span is read directly from an associated source without reading the data as part of a composite image from an image buffer. The Microsoft Article also fails to anticipate or obviate the claimed method, inasmuch as the method includes identifying portions of the image that are opaque and translucent, and for translucent portions, reading blending and displaying the source data, but for opaque portions, only reading from the sources that will be visible and without reading from sources that would otherwise be obscured.

Initially, with regard to how the data is read, the Microsoft Article makes reference to buffering image data, as stated by the Examiner. The Microsoft Article does not, however, disclose or suggest that the image data is read directly from the data sources and without reading the data as part of a composite image from an image buffer. The closest language appears to be found in section 3.1, second paragraph, lines 1 and 2, stating: "The primary job of the Burma is to dynamically composite sets of video and computer-generated images into an output image." This disclosure, however, merely suggests that multiple images can be composited together by the Burma chip. It does not suggest that each of the individual images being composited together is read directly from the corresponding data sources used to generate the image and without reading the data from an image buffer as part of a composite image, as claimed.

Nevertheless, even assuming, *arguendo*, that the Burma chip did read data directly from the data sources, as claimed, the Microsoft Reference fails to disclose or suggest a method in which, for portions of an image that are identified as being opaque, data is only read from the sources that correspond to the opaque portion **and** that would be visible within the opaque portion during display of the image, but without reading data from any sources that would be obscured in the opaque portion of the image.

With regard to this claim element, the Examiner points to a display of an EPG and suggests that images of the video from the past and the future are not read from the source, only the current image is read. Applicants respectfully submit, however, that the timing

(past/present/future) of when an image is received/displayed does not relate the scope of the claim language. Instead, the claim is directed to specifying which sources the data is read from. In particular, the claim states that the data is only read from the sources that correspond to the opaque portion and that would be visible within the opaque portion during display of the image. Accordingly, even assuming the EPG shows an opaque portion being displayed, the Microsoft Reference fails to teach the recited claim language. For example, the displayed opaque video image shown in the EPG display could actually be displayed over transparent or other opaque data that is being obscured by the video image, contrary to the recited claim language. In such a situation, the resources for compositing and rendering the obscured/unseen image data are wasted. It is particularly this type of waste that the presently recited claim embodiment can be used to avoid, but which is neither discussed, disclosed or suggested by the Microsoft Article.

Furthermore, Applicants also point out that the subsequent claim recitation stating that data is not read from any sources that would be obscured in the opaque portion should not be construed as an overly broad limitation, as suggested by the Examiner. Instead, this statement merely clarifies the preceding claim limitation that data is only read from sources that would be visible within the opaque portion.

For at least these reasons, Applicants respectfully submit that Independent claim 1 and the corresponding dependent claims are patentable over the Microsoft Article.

The foregoing arguments made with regard to the image buffer also apply to claim 10. In particular, there is nothing in the Microsoft Article that suggests data is read from one or more sources without first storing a composite image of the data in an image buffer. In fact, the Microsoft Article fails to describe how the image data is buffered during reading of the data, and should not, therefore, be construed as implying that the data is read directly from the data sources without first compositing portions of the image into an image buffer, particularly since that has been the standard practice for rendering image data, as described in Applicants background section. (see page 3, ll. 1-13 of Applicants specification).

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that Independent claim 10 and the corresponding dependent claims are patentable over the Microsoft Article.[2]

In the last action, the Examiner stated that "The argument concerning double buffering on page 12 is not persuasive because the article discusses in section 12.4 paragraph 2 video memory and does not mention double buffering

Next, with regard to claim 17, the Examiner suggests that paragraph 2 of section 3 and paragraph 3 of section 3.1 of the Microsoft Article teach the recited claim elements for reducing flicker. This, however, is not true. In particular, paragraph 2 of section 3 merely states that the Burma chip is capable of "dynamically scaling and alpha blending (semi-transparently overlaying) multiple video and computer-generated graphics surfaces using different pixel representations into a single, flicker-filtered output image in real time." Likewise, paragraph 3 of section 3.1 merely states that "Flicker filtering can be controlled on a per-span basis."

The fact that the Article states flicker filtering can be controlled on a per-span bases, however, falls well short of making obvious the claimed method, even when viewed in combination with Perlman. In fact, Perlman is only cited by the Examiner for purportedly "teaching a flicker filter that filters the previous and next lines with the current line," (OA page 13, lines 6-7), a teaching that is specifically distinguished by the present claim. In particular, the present claim explicitly recited that the blending of span data was performed "without blending the entire line, previous line and next line". Accordingly, the suggested teaching of Perlman actually teaches away from the claimed method. Nevertheless, to further clarify the claim language, claim 17 has been amended to more clearly state that the blending occurs without blending the entire line with either the entire previous line or the entire next line."

Furthermore, Applicants also suggest that the cited disclosure of The Microsoft Article and Perlman fail to disclose that each of the lines include a plurality of spans, as claimed. The Microsoft Article does state that the "spans can be of different lengths and have different origins." Section 3.1, second paragraph. However, this does not infer that each line has multiple spans, as claimed. Nevertheless, even assuming, *arguendo*, that the references did teach that multiple spans are in each of the lines, there is no disclosure in the cited art to suggest that it is the vertically adjacent spans that are blended, rather than vertically offset spans, for example.

In summary, Applicants respectfully submit that the disclosure provided in the Microsoft Article stating that flickering can be controlled on a per-span basis and the disclosure in Perlman regarding flicker filters utilizing previous and next lines, fails to meet the burden of obviating or

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which requires double the memory." This statement is now moot in view of the latest amendment to the claim omitting the requirement for a double image buffer. Nevertheless, Applicants point out that the total available memory identified in the Article could support a "double the memory" requirement, by bifurcating the memory accordingly. Accordingly, the fact that the article does not explicitly state the term "double image buffer", does not mean that the image data has not been read from a buffer containing composited image data.

anticipating Applicants claimed method and recited elements for reducing flickering by blending the span data subject to flickering with the vertically adjacent previous span data, and subsequent span data, without blending the entire line of the span with the entire previous or subsequent lines.

Accordingly, for at least the foregoing reasons, Applicants respectfully submit that claim 17 and the corresponding dependent claims are neither anticipated by nor made obvious by the Microsoft Article.

Finally, with regard to claim 21, Applicants respectfully submit that the Examiner has failed to establish a *prima facia* case of obviousness. In rejecting the recited claim for blending data streams, the Examiner states that the Microsoft Article "does not appear to describe in what order the input pixels are blended and the color space converted." The Examiner then essentially states that it would have been obvious to blend data as recited in the claims, because it would save processing time due to only having to perform color space conversion once. This apparent motivation for performing the recited method is not used, however, to combine any art or disclosure teaching the recited claim elements. Instead, this suggested motivation is provided as what appears to be Official Notice, although the Examiner does not call it Official Notice.

Applicants respectfully submit that a determined benefit that can be achieved from practicing the invention cannot be used independently, through hindsight, as an independent teaching of what was known or obvious at the time of the invention. In fact, the prior art techniques for compositing images did not do what the Examiner is suggesting would be so obvious. Accordingly, this actually implies that it wasn't obvious. In particular, if such great benefits could be achieved by blending data streams in the claimed manner, as suggest by Applicants' application and as suggested by the Examiner, it surely was not that obvious or else it would have already been done. Accordingly, absent any specific disclosure teaching the specific claim elements for blending data streams in the manner recited, Applicants respectfully submit that claim 21 and the corresponding dependent claims are in condition for allowance.

If, for any reason, the Examiner wishes to pursue the rejection of claim 21 based on the Microsoft Article, Applicants respectfully request that the Examiner specifically identify the portions of the Microsoft Article that teach the following recited claim elements, so that Applicants will have a fair opportunity to respond:

(a) receiving data streams at a blending module, each of the data streams having a color space;

(b) directing the data streams having the same color space to blending units of the blending module, each blending unit having an associated color space;

(c) blending, by each blending unit, the data streams having the color space that is the same as the associated color space of the blending unit to produce outputs;

(d) converting the outputs to a single color space; and

(e) blending the outputs to produce an image data stream.

In particular, Applicants would like the Examiner to correlate the specific recited claim elements (e.g., blending units having associated color spaces, directing data of the same color space to the associated blending unit, etc.) with the disclosure in the Microsoft Article, rather than merely stating:

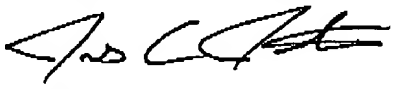
> Section 3.1 describes various formats for the pixels in the third paragraph. In the fourth paragraph a color space converter is described. The output of the Burma chip is a stream of pixels, thus the output of the Burma chip is blended into an image data stream of many pixels.

That way, Applicants will have a fair opportunity to address the Examiner's rejections.

For at least the foregoing reasons, Applicants respectfully submit that all of the pending claims 1-7 and 9-28 are in condition for prompt allowance. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 20 day of May 2004

Respectfully submitted,



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